

Remarks

Claims 50-56 are canceled herein. Applicants reserve the right to claim the subject matter of the original claims in continuing applications. Claims 39-49 are pending in the application.

Applicants have also amended the first paragraph of the specification to correct a typographical error in the serial number of one of the priority documents and to update the status of other cited applications. No new matter has been added by these amendments.

Rejection of the Claims Under 35 U.S.C. § 112, First Paragraph

Claims 39-49 stand rejected under 35 U.S.C. § 112, first paragraph, for lack of enablement. (Office Action, page 3.) Applicants respectfully disagree but have amended claim 39 in order to facilitate prosecution.

The Examiner asserts that claim 39 is not enabled because the specification “does not reasonably provide enablement for any isolated nucleic acid molecule comprising the nucleotide sequence of (a) of claim 39 ‘located within a recombination site’, . . .” (Office Action, page 3.)

The invention relates generally to nucleic acid molecules which are capable of participating in recombination reactions. *Att* recombination sites have a 15 base pair core region which is shared in *attB*, *attP*, *attL* and *attR* sites. Within this core region is a seven base pair overlap region where strand exchange takes place. In the presence of appropriate recombination proteins, an *att* recombination site, such as an *attL* site, will recombine with its cognate *att* site (*i.e.*, an *attR* site), which shares the same seven base pair overlap region, to form *attB* and *attP* sites (*see* Figure 2 of the '466 application). The reverse reaction can also occur where *attB* and *attP* sites recombine to form *attL* and *attR* sites (*see* Figure 4 of the '466 application). Thus, *attR* sites react with *attL* sites to generate *attB* sites and *attP* sites and vice versa.

Example 21 of the '466 application sets out individual base substitutions within the seven base pair overlap region and a discussion of recombination sites which contain various substitutions, with respect to both specificity and efficiency in LR recombination reactions. The sequence set out in claim 39 represents the seven base pair overlap region of an *attLT1A* recombination site (see page 156, line 20, of the '466 application). It is stated at page 160, lines 14-17, of the '466 application that "a slightly increased (less than 2-fold) recombination efficiency with *attLT1A* and *attLC7T* substrates was observed when these substrates were reacted with their cognate *attR* partners." Applicants' point is as follows. The specification clearly indicates that

attLT1A recombination sites will undergo recombination reactions with an *attR* site which contains the same seven base pair overlap sequence. This recombination reaction yields *attB* and *attP* sites which also contain the same seven base pair overlap region. Further, *attB* recombination sites can react with *attP* recombination sites to regenerate *attL* recombination sites and *attR* recombination sites. In view of this, Applicants believe that the enablement requirement has been satisfied for claim 39 as presented here.

The Examiner also notes that "the specification does not disclose the use of molecules comprising this 7 base pair sequence located in any type of non-*att* recombination site. (Office Action, page 5.) Along these lines, Applicants note that claim 39 has been amended to recite "wherein the nucleotide sequence is located within an *att* recombination site which is capable of undergoing recombination with a cognate *att* site containing the same nucleotide sequence."¹ Thus, Applicants have added a functional limitation which we believe addresses the Examiner's concern.

In view of the above, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of the claims under 35 U.S.C. § 112, first paragraph.

Conclusion

Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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¹Support for this amendment can be found, *inter alia*, at page 59, line 22 through page 61, line 7 of the specification.